PATENT CASE NAME/NO. P03149 (1223P008A)

AMENDED CLAIMS

Pending claims 1-16 are canceled without prejudice. They are replaced by the originally filed PCT priority claims 1-36, renumbered as claims 17-52 appearing below.

We claim:

1-16. CANCELED

17. (New/Originally Presented) A method for laser vision correction, comprising providing a controlled biodynamic response in corneal tissue of an eye by inflicting a controlled trauma to an exposed corneal surface outside an identified optical zone for a myopia correcting nominal laser ablation of the cornea.

18. (New/Originally Presented) The method of claim 1, wherein providing the controlled biodynamic response includes a flattening of the corneal surface over at least a central portion of the optical zone.

19. (New/Originally Presented) The method of claim 1, wherein inflicting the controlled trauma comprises laser ablating a portion of the exposed corneal surface.

20. (New/Originally Presented) The method of claim 3, wherein laser ablating a portion of the exposed corneal surface comprises ablating at least a portion of a ring of corneal tissue having a circular or an acircular shape.

21. (New/Originally Presented) The method of claim 4, wherein the at least a portion of the ablation ring has an inner boundary adjacent an outer boundary of the optical zone.

22. (New/Originally Presented) The method of claim 5, wherein the inner boundary of the at least a portion of the ablation ring begins at a distance, d, from the outer boundary of the optical zone, where $200\mu m \leq d \leq 600\mu m$.

23. (New/Originally Presented) The method of claim 4, comprising ablating the at least a portion of the ring to a depth, t, where $10\mu m \leq t \leq 70\mu m$, and having a width, w.

24. (New/Originally Presented) The method of claim 7, wherein t and w are variable as a function of biodynamic ablation location on the cornea.

25. (New/Originally Presented) The method of claim 7, wherein w is a function of the laser beam diameter on the cornea.

26. (New/Originally Presented) The method of claim 7, wherein w has a nominal value of about 1mm.

27. (New/Originally Presented) The method of claim 4, comprising ablating the at least a portion of the ring within a transition zone of the nominal ablation of the cornea.

28. (New/Originally Presented) The method of claim 1, wherein providing the controlled biodynamic response comprises creating a tissue ablation volume for a desired refractive correction that is less than a corresponding tissue ablation volume for the desired refractive correction in the absence of the controlled biodynamic response.

29. (New/Originally Presented) The method of claim 12, wherein the lessened tissue ablation volume has a smaller ablation depth over the optical zone than a corresponding ablation depth over the optical zone in the absence of the controlled biodynamic response.

30. (New/Originally Presented) The method of claim 1, wherein providing the controlled biodynamic response comprises empirically determining the controlled biodynamic response from a statistically significant population.

31. (New/Originally Presented) The method of claim 1, wherein providing the controlled biodynamic response comprises delivering a plurality of photoablative light pulses onto the corneal surface, all of which have only a 1mm diameter.

32. (New/Originally Presented) The method of claim 15, wherein the plurality of photoablative light pulses have a direct aperture transmission portion and a diffractive aperture transmission portion so as to produce a soft-spot beam intensity profile.

33. (New/Originally Presented) A method for a LASIK or a LASEK myopia correction, comprising:

ablating a volume of corneal tissue outside an optical zone of a nominal ablation region of the cornea.

34. (New/Originally Presented) The method of claim 17, wherein the volume of ablated corneal tissue is in the form of at least a portion of a ring of ablated corneal tissue having a circular or an acircular shape.

35. (New/Originally Presented) The method of claim 18, wherein the at least a portion of the ring has an inner boundary adjacent an outer boundary of the optical zone.

36. (New/Originally Presented) The method of claim 19, wherein the inner boundary of the at least a portion of the ablation ring begins at a distance, d, from the outer boundary of the optical zone, where $200\mu m \leq d \leq 600\mu m$.

37. (New/Originally Presented) The method of claim 20, comprising ablating the at least a portion of the ring to a depth, t, where $10\mu m \leq t \leq 70\mu m$, and a width, w.

38. (New/Originally Presented) The method of claim 21, wherein t and w are variable as a function of biodynamic ablation location on the cornea.

39. (New/Originally Presented) The method of claim 21, wherein w is a function of the laser beam diameter on the cornea.

40. (New/Originally Presented) The method of claim 21, wherein w has a nominal value of about 1mm.

41. (New/Originally Presented) The method of claim 24, comprising ablating the at least a portion of the ring within a transition zone of the nominal ablation of the cornea.

42. (New/Originally Presented) The method of claim 17, wherein ablating the volume of corneal tissue comprises creating a tissue nominal ablation volume in the optical zone for a desired refractive correction that is less than a corresponding tissue nominal ablation volume in the optical zone for the desired refractive correction in the absence of the controlled biodynamic response.

43. (New/Originally Presented) The method of claim 26, wherein the lessened tissue nominal ablation volume has a smaller ablation depth over the optical zone than a corresponding ablation depth over the optical zone in the absence of ablating the volume of corneal tissue.

44. (New/Originally Presented) In an improved device readable medium having stored therein an executable instruction for directing an ophthalmic vision correcting laser platform to deliver a myopia correcting nominal ablation in an optical zone of a corneal surface, the improvement comprising an executable instruction stored in the medium for directing the ophthalmic vision correcting laser platform to deliver a myopia correction enhancing biodynamic ablation in the corneal surface outside of the optical zone.

45. (New/Originally Presented) The device readable medium of claim 28, wherein the biodynamic ablation has the form of at least a portion of a ring having an inner boundary adjacent an outer boundary of the optical zone, wherein the ring has a circular or an acircular shape.

46. (New/Originally Presented) The device readable medium of claim 29, wherein the inner boundary of the biodynamic ablation is separated from the outer boundary of the optical zone by a distance, d, where $200\mu m \leq d \leq 600\mu m$.

47. (New/Originally Presented) The device readable medium of claim 29, wherein the at least a portion of the ring has a depth, t, where $10\mu m \leq t \leq 70\mu m$, and a width, w.

48. (New/Originally Presented) The device readable medium of claim 31, wherein t and w are variable as a function of biodynamic ablation location on the cornea.

49. (New/Originally Presented) The device readable medium of claim 31, wherein w is a function of the laser beam diameter on the cornea

50. (New/Originally Presented) The method of claim 29, wherein w has a nominal value of about 1mm.

51. (New/Originally Presented) The device readable medium of claim 29, wherein the at least a portion of the ring is located within a transition zone of the nominal ablation of the cornea.

52. (New/Originally Presented) The device readable medium of claim 29, wherein the controlled delivered biodynamic ablation comprises a plurality of photoablative light pulses delivered to the corneal surface, all of which have only a 1mm diameter.